ABSTRACT

EFFECT OF pH AND CONTACT TIME VARIATIONS ON ADSORPTION OF CADMIUM METAL (Cd) USING KEPOK BANANA PEEL POWDER BIOSORBENT
(Stirring Speed 200 rpm)

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The growth of the population leads to an increase in in environmental problems, including the contamination of liquid waste containing heavy metals such as cadmium. One solution is adsorption using natural biosorbents like kepok banana peels, which can reduce waste treatment costs. This research aims to determine the effect of pH and contact time on the percentage of adsorption of cadmium metal (Cd) by the kepok banana peel adsorbent at a stirring speed of 200 rpm.

In this study, the variations in contact time used were 30 and 60 minutes, for the pH variations used were pH 4, 5, 6, 7, and 8. The data used were the initial and final concentrations of metals in the samples obtained from Atomic Absorption SpectropHotometer analysis (SSA) which is then processed using the percent adsorption formula. The highest adsorption percentage was obtained at pH 8 at each contact time, with a value of 87.13% at a contact time of 30 minutes and 89.07% at a contact time of 60 minutes. The Correlation Spearman statistical test obtained showed that there was no significant effect of pH treatment on % adsorption, while in testing the variation of contact time on %adsorption it shows that there is no significant effect, so it can be concluded that 30 minutes and pH 8 as the effective contact time and pH.